

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
TEXARKANA DIVISION**

HITACHI MAXELL, LTD.,

Plaintiff,

v.

HUAWEI DEVICE USA INC. AND  
HUAWEI DEVICE CO., LTD.,

Defendants.

Civil Action No. 5:16-cv-00178-RWS

**JURY TRIAL DEMANDED**

**DEFENDANTS HUAWEI DEVICE USA INC. AND HUAWEI DEVICE CO., LTD.'S  
MOTION TO DISMISS COUNTS 2 AND 4 OF THE FIRST AMENDED COMPLAINT  
RELATING TO U.S. PATENTS 6,928,292 AND 7,509,139 AS CLAIMING NON-  
PATENTABLE SUBJECT MATTER UNDER 35 U.S.C. SECTION 101**

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## I. Introduction

In *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, the Supreme Court held that, under 35 U.S.C. Section 101, a patent claim directed to an abstract idea must add an “inventive concept”—something “significantly more” than the abstract idea itself—to be patent eligible. 134 S. Ct. 2347, 2355 (2014). The Federal Circuit has repeatedly reaffirmed that merely collecting, analyzing, and combining data using generic computer hardware and functionality is not patentable subject matter, even if confined to a particular technology or field of use like wireless communications.

For this reason, at least two of the patents in Plaintiff’s First Amended Complaint (Dkt. 17) fail the *Alice* test. Both U.S. Patent No. 6,928,292 (asserted in Count 4) and U.S. Patent No. 7,509,139 (asserted in Count 2) (the “292 Patent” and “139 Patent,” respectively) embody abstract ideas—essentially collecting, sorting, and analyzing information that any generic computer can perform. Neither adds an inventive concept. Rather, they both just recite generic computer and wireless hardware. Their claims are therefore not patent ineligible, and counts 4 and 2 should be dismissed.

The ’292 Patent claims an abstract idea of collecting and analyzing data to determine the position of a mobile handset. The handset collects GPS-based and cellular-based estimates of its position and the reliability associated with those estimates. It then combines the two estimates accordingly to the reliability of each estimate. It utilizes off-the-shelf generic GPS and cellular hardware. Because they are merely conduits of the abstract idea, the generic structures fail to transform the claims into patent-eligible matter. The claims also attempt to monopolize the abstract idea of combining GPS-based data with cellular-based data based on their reliability, using a basic mathematical principle—weighted averaging. In a nutshell, the ’292 Patent claims the abstract idea of collecting and analyzing data from disparate sources and carries it out in a generic environment.

The ’139 Patent also claims an abstract idea for collecting and analyzing the data that a wireless terminal uses to select the base station to which it should connect. The claims simply

require classifying base stations into groups, collecting data associated with each group, and then specifying a group based on that data. A base station from the specified group is then selected. To implement this abstract idea, the patent relies on generic hardware to measure the communication quality between a terminal and the base stations. The claims of the '139 Patent are devoid of any technical detail and merely make the terminal and the base stations conduits of the abstract idea. Thus, the claims are directed to patent ineligible subject matter.

Neither patent adds any inventive concept to the abstract ideas at the hearts of the alleged inventions. Accordingly, both should be found patent ineligible under *Alice* and its progeny.

## **II. Statement of the Issue**

Should the Court dismiss with prejudice Counts 2 and 4 of the First Amended Complaint?

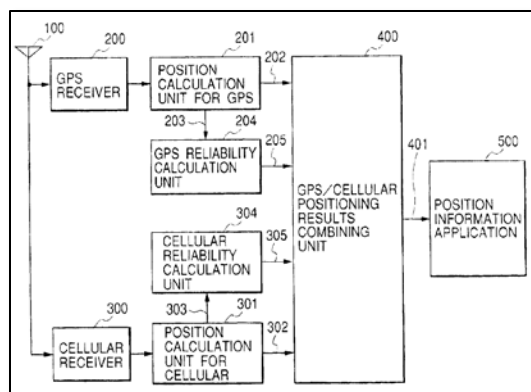
## **III. Overviews of the '292 and '139 Patents**

### **A. The '292 Patent concerns calculating a device's position by combining GPS- and cellular-position data based on their reliabilities.**

The '292 Patent discloses a technique that calculates a mobile handset's position (i.e., geographic location) by calculating GPS-based and cellular-based estimates of position and combining them based on their reliability. '292 Patent, 3:11-16. Specifically, the handset receives GPS-based signals and calculates (1) an estimate of its position and (2) the reliability of that estimate. It then performs the same calculations for cellular-based signals. Then the GPS-based and cellular-based positions are combined with their reliabilities to arrive at a combined-position estimate. In short, the '292 Patent essentially takes data from two different sources and combines them accordingly to the reliability associated with each data source.

Figure 1 illustrates a functional block diagram that implements this "position determination method," *id.*, 3:24–27. A GPS signal is received at GPS Receiver **200**, *id.*, 3:28–32, which is conveyed to Position Calculation Unit for GPS **201**, *id.*, 3:33–35. Unit **201** calculates the position of the handset using GPS signals and provides the result (i.e., GPS-based position calculation result **202**) to

the GPS/Cellular Positioning Results Combining Unit **400**. Unit **201** also provides information about the reliability of the GPS-based position calculation result **203** and conveys it to the GPS Reliability Calculation Unit **204**. *Id.*, 3:44–52. Unit **204** calculates the reliability of the GPS position data **205**, *id.*, 3:49–52, and conveys the result to Unit **400**.



Blocks **300**, **301**, and **304** perform identical processing of cellular-based signals to generate cellular-based position data **302** and reliability of the cellular-based position data **305**, which are provided to GPS/Cellular Positioning Results Combining Unit **400**. Unit **400** combines the GPS-based position **202** and the cellular-based position **302** according to the reliability of each position, **205** and **305**, to generate combined position data **401**, *id.*, 4:43–48.

Claim 1 is the sole apparatus claim, containing seven means-plus-function limitations. Each means limitation mirrors one of the functional blocks of Figure 1:

[Claim] 1. A mobile handset capable of determining its position using radio waves, the mobile handset comprising:

[1] GPS receiver means for receiving GPS-oriented signals and generating received GPS signals;

[2] GPS position calculation means for calculating the mobile handset's position from the received GPS signals and outputting a GPS-based position result;

[3] GPS reliability calculation means for calculating GPS positioning reliability based on the GPS-based position result;

[4] cellular receiver means for receiving cellular-oriented signals and generating received cellular signals;



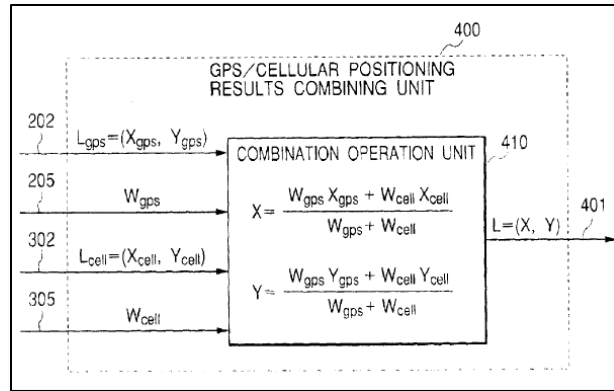
[5] cellular position calculation means for calculating the mobile handset's position from the received cellular signals and outputting a cellular-based position result;

[6] cellular reliability calculation means for calculating cellular positioning reliability based on the cellular-based position result; and

[7] GPS/cellular positioning results combining means for combining the GPS-based position result and the cellular-based position result with the GPS positioning reliability and the cellular positioning reliability, wherein said GPS and cellular receiver means are adapted to receive GPS and cellular-oriented signals simultaneously.

The first three limitations above—the GPS-related limitations—correspond to the GPS blocks **200**, **201**, **204** in Figure 1, respectively. They receive GPS signals, calculate an estimate of GPS-based position, and calculate the reliability of that estimate. The next three limitations—the cellular-related limitations—correspond to the parallel cellular blocks **300**, **301**, and **304**, respectively. They receive cellular signals, calculate an estimate of the cellular-based position, and ascertain the reliability of that estimate. The final combining means limitation corresponds to GPS/Cellular Position Results Combining Unit **400**. The claim also requires that the receiver means **200** and **300** be respectively adapted to receive the GPS and cellular signals simultaneously. However, the order of the GPS and cellular calculations can be reversed or “carried out simultaneously,” because the “order of the GPS/cellular steps is not limited.” *Id.*, 3:18–23.

Figure 3 (below) is the only disclosed “embodiment of the GPS/cellular positioning results combining unit **400**.” *Id.*, 4:49-50. The left side depicts the data that is input to Unit **400**.  $L_{\text{gps}}$  (composed of the coordinates  $X_{\text{gps}}$  and  $Y_{\text{gps}}$ ) is the estimate of GPS-based position and  $W_{\text{gps}}$  is the reliability of that estimate. Similarly,  $L_{\text{cell}}$  (composed of the coordinates  $X_{\text{cell}}$  and  $Y_{\text{cell}}$ ) is the estimate of the cellular-based position and  $W_{\text{cell}}$  is the reliability of that estimate. In the Combination Operation Unit **410**, GPS-based coordinates are weighted (i.e., multiplied) by GPS reliability data ( $W_{\text{gps}}$ ) and the cellular position coordinates are weighted by cellular reliability data ( $W_{\text{cell}}$ ). The weighted coordinates are combined and averaged to calculate a new pair of coordinates  $L = (X, Y)$ .



In other words, the new coordinates  $L = (X, Y)$  are simply a weighted average of the GPS- and cellular-positions, weighted by the reliability of each position. Even though the specification suggests rudimentary arithmetic, the patent asserts that combining the two position determinations based on their reliability tends to give a more accurate position determination. *Id.*, 5:7–12.

Claim 2 is a method claim directed to the same abstract idea. Compared to claim 1, claim 2 adds that the GPS- and cellular-based positions be calculated “simultaneously.” *Id.*, 6:18–38.

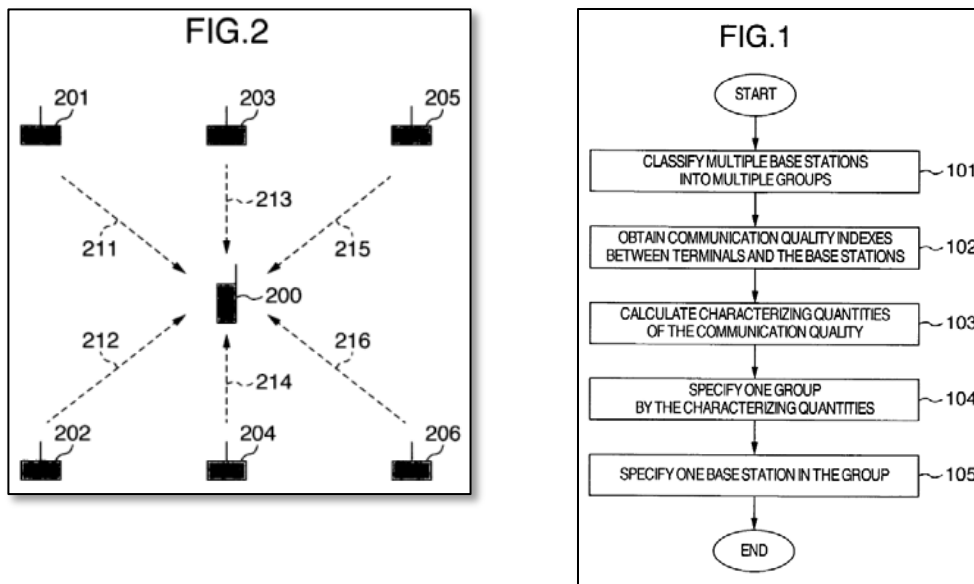
During prosecution, the USPTO examiner found that, except for receiving GPS and cellular signals simultaneously and calculating GPS-based and cellular-based positions simultaneously (i.e., portions of the last limitation of each claim), every limitation above was disclosed in a single-prior art reference. *See* Young Decl., Ex. A at 3–4, 5–6. The examiner found, however, that the claims pending during prosecution, which were dependent claims, would be allowable if they were rewritten as independent claims, *id.* at 11. The inventors subsequently did that. *See id.*, Ex. B.<sup>1</sup> The two previously dependent claims correspond to issued claims 1 and 2 in the ’292 Patent.

**B. The ’139 Patent concerns calculating a group score for groups of base stations and selecting one base station from a specified group.**

The ’139 Patent claims a simple three-step method for “selecting one wireless base station

<sup>1</sup> “Courts evaluating patent-eligibility at the pleading stage” may take judicial notice of a patent’s prosecution history. *Integrated Tech. Sys., Inc. v. First Internet Bank of Indiana*, 2017 WL 631195, at \*2 (E.D. Tex. Jan. 30, 2017) (citations omitted), *report and recommendation adopted*, 2017 WL 617673 (E.D. Tex. Feb. 15, 2017).

... from multiple base stations in a wireless system.” ’139 Patent, 1:13–15, 2:19. The method begins with base stations that have been classified into several groups. Then, using generic metrics of wireless communication, the communication quality between a wireless terminal and each base station is measured and recorded. In the second step, the measured metrics are analyzed to calculate “group scores” for each group of base stations. In the last step, a group is specified based on the group scores. A base station from the specified group is selected as the connection base station for the terminal. *Id.*, 2:37–3:5.



This method is illustrated in Figures 1 and 2 (above). Figure 2 depicts a wireless terminal 200 (e.g., a mobile unit) that is receiving signals 211 to 216 from several base stations 201 to 206. Figure 1 depicts the steps a terminal may take to select the base station to which it should connect. In Figure 1, as required by step 101, the base stations of Figure 2 have been organized into groups. *Id.*, 2:22–26. In step 102, communication quality between terminals and base stations (i.e., an “index of communication quality”) is measured. In step 103, these metrics of communication quality (i.e., indices) are used to calculate a “group score” (i.e., a “characterizing quantity” for each group). *Id.*,

4:58–62. In step **104**, a group is specified based on the group scores. *Id.*, 5:25–27. Finally, in step **105**, a particular base station within that specified group is selected. *Id.*, 5:27–29.

Claim 1 is representative and mirrors the base station selection algorithm in Figure 1:

[Claim] 1. A connection control method for selecting one base station, to which a terminal is to connect, from a plurality of base stations in a wireless communication system, said connection control method comprising:

[1] a first step of obtaining an index of communication quality between the terminal and the base stations for each of said plurality of base stations wherein, said plurality of base stations being classified into a plurality of groups;

[2] a second step of calculating characterizing quantities of the communication quality for each of the groups; and

[3] a third step of specifying one of the plurality of groups based on the characterizing quantities and selecting one of base stations, which belong to the specified group, as a connection destination base station of said terminal.

The first limitation for the “obtaining an index of communication quality” step corresponds to steps **101** and **102** in Figure 1.<sup>2</sup> The second limitation for the “calculating” step corresponds to step **103**.

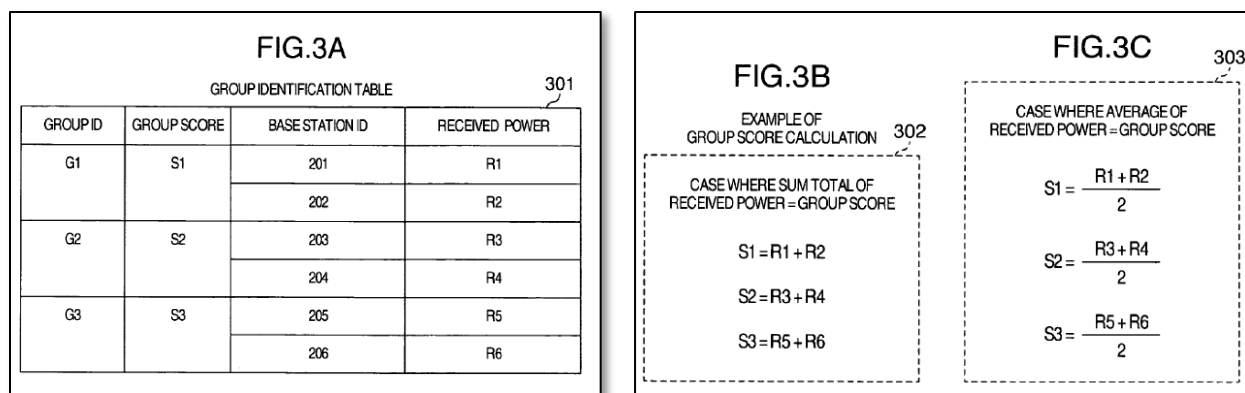
The final limitation for the “specifying” and “selecting” steps corresponds to steps **104** and **105**.

Figures 3A to 3C (below) illustrate how to tabulate and calculate the group scores for the base stations. The table in Figure 3A depicts (1) the groups into which the base-stations have been classified and (2) the data that has been collected and calculated for each base station and each group. Figure 3A depicts three groups of base stations that are identified by their Group IDs (i.e., G1, G2, G3). As an example, Group G1 has two base stations—Base Stations with IDs 201 and 202. The Received Power levels for each of these two base stations are R1 and R2 respectively (shown in the last column of Figure 3A). The second column of Figure 3A shows the Group Score associated with each group of base stations. Figures 3B and 3C show two ways to calculate that

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<sup>2</sup> Examples of metrics that can serve as indices of communication quality are received power, bit rates, and signal-to-noise ratios (SNRs), which are all standard metrics of wireless communication that the ’139 Patent does not purport to have invented. ’139 Patent, 2:51-3:11.

Group Score: Figure 3B shows that the Group Score can be a mere addition of the Received Power associated with each base station in a group and Figure 3C shows that the Group Score can alternatively be an average of those Received Powers.



The Group Score is utilized to specify a group of base stations in the third step of claim 1 by applying some criteria (for example, maximum Group Score). Once a base station group is specified, Figure 3A can be used again to select a base station from the specified group. This base station becomes the “connection destination” for the terminal.

The patent mentions that the “wireless communication function and the base station selection algorithm are implemented by executing ... software” in generic “RAM” (random access memory) using a generic “CPU” (central processing unit)—i.e., in a standard computer. *Id.*, 6:1–3.

**The other claims of the '139 Patent:** Independent claims 11 and 15 are virtually identical to claim 1. Apparatus claim 11 requires a wireless terminal with a storage unit that basically stores the information that would be calculated by claim 1’s method and a control unit that performs the calculating, specifying, and selecting steps. System claim 15 restates the method of claim 1 as a system claim.

Claims 2 through 9 depend on claim 1. Claims 12 and 13 depend on claim 11. These dependent claims simply add well-known metrics of wireless communication—received power, bit rates, and signal-to-noise ratio (SNR)—to the calculation or selection steps of the independent

claims. For example, claim 2 uses total received power as the group score; claim 3 used an average of the received powers as the group score; claim 4 uses the sum of the bit rate as the group score; and claim 5 uses the sum of SNRs as the group score. Each of the claims 2, 3, 4, and 5 require selecting a group whose group score is the “maximum or larger than a threshold.” Similarly, claim 12 requires measuring either received power or SNR to calculate the group score. Claims 6 through 9 specify how a particular base station is within a selected group is identified. Claim 6 requires that the particular base station be pre-selected. Claim 7 selects the base station with the “strongest received power.” Claim 8 selects the base station with the highest bit rate. Claim 9 selects the base station with the highest SNR value.

Claim 10 depends on claim 1, claim 14 depends upon claim 11, and claim 16 depends upon claim 15. Though claims 10, 14, and 16 are in different formats, they impose essentially the same requirement. All of the claims pertain to calculating the position of a handset using the time needed for a signal to propagate from the handset to the base stations.

#### **IV. Legal Framework**

Section 101 authorizes a patent for a “new and useful process, machine, manufacture, or composition of matter.” Though broad, this section “contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice*, 134 S. Ct. at 2354 (quotation marks and citation omitted). These “are the basic tools of scientific and technical work” and cannot be patented. *Id.* (quotation marks and citation omitted). Even being “the first to successfully apply an abstract idea within a new technological context does not transform the abstract idea into something tangible and patentable.” *Bilski v. Kappos*, 561 U.S. 593, 610–11 (2010).

In *Alice*, the Supreme Court set a two-step framework for applying these principles to the digital world. First, a court must determine if a claim is directed to an abstract idea. Second, if a claim is so directed, the court should decide if it adds an inventive concept. If it does not add an

inventive concept, it is patent ineligible.

**A. *Alice* Step 1: Determine if the claims are directed to an abstract idea.**

Under *Alice*, a court must first determine if a claim is “directed to” a patent-ineligible concept, such as an abstract idea. 134 S. Ct. at 2355. It should look past specific limitations—the focus of step 2—and identify “[t]he idea underlying the inventions.” See *Affinity Labs of Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253, 1260 (Fed. Cir. 2016); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d. 709, 715 (Fed. Cir. 2014) (discussing “the abstract idea at the heart of the ... patent”).

“[C]laims that involve collecting, organizing, recognizing, and/or transmitting information a[re] abstract ideas.” *Rothschild Location Techs. LLC v. Geotab USA, Inc.*, 2016 WL 3584195, at \*5 (E.D. Tex. Jan. 4, 2016), *report and recommendation adopted*, 2016 WL 2847975 (E.D. Tex. May 16, 2016). A “process that employs mathematical algorithms to manipulate existing information to generate additional information” is also an abstract idea. *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014); *Parker v. Flook*, 437 U.S. 584, 595 (1978) (holding that “a method of calculating,” even “for a specific purpose,” is not patentable) (quotation marks and citation omitted).

Processes and “computational method[s]” that can be performed entirely in the human mind, or with a pen and paper, are also unpatentable.” *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373 (Fed. Cir. 2011); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146–47 (Fed. Cir. 2016) (applying this principle in affirming summary judgment of patent ineligibility).

A claim does not avoid abstraction when “computers are invoked merely as a tool.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016). Rather, to qualify under Section 101 a claim must provide a “specific asserted improvement in computer capabilities.” *Id.* (holding that the patent at issue was not directed to an abstract idea because the claims were “directed to a specific improvement to the way computers operate, embodied in” a “self-referential table”). Confining the claim to “a particular existing technological environment” does not make it concrete. *Affinity Labs*,

838 F.3d at 1259. So, a patent directed to “providing out-of-region access to regional broadcast content” in cellphones is still “an abstract idea.” *Id.* at 1258.

**B. *Alice* Step 2: Determine if the claims add an inventive concept.**

If a patent is directed to an abstract idea, then it must add an “inventive concept” to be patent eligible. That is, it must add a limitation or combination of limitations “sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 134 S. Ct. at 2357 (citation omitted). These “additional features” must be more than “well-understood, routine, conventional activities previously known to the industry.” *Id.* “[M]ere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Id.*

After *Alice*, the Federal Circuit has repeatedly held that using standard computer hardware and functionalities—such as simply collecting, processing, and converting data—is not inventive. *See, e.g., Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (holding that “a process of gathering and analyzing information of a specified content, then displaying the results” without “any particular assertedly inventive technology for performing those functions” is patent ineligible); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”). There is no inventive concept in a patent that “simply recites the use of generic features” and “routine functions” of cell phones, “such as transmitting and receiving signals.” *Affinity Labs*, 838 F.3d at 1262. Similarly, a method for identifying characteristics of data files “on a processing system” does not pass muster if it neither “improve[s] the functioning of the computer itself” nor “improv[es] the way a computer stores and retrieves data in memory.” *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1315 (Fed. Cir. 2016) (quotation marks and citation omitted). This inventive concept step is “plainly related” to the abstract idea step because both steps “involve overlapping scrutiny of the content of the claims.” *Elec. Power*, 830 F.3d at 1353. For example, as



with step 1, tying an abstract idea to a particular technological environment or field of use is not inventive. *Alice*, 134 S. Ct. at 2358.

**C. Patent eligibility under Section 101 is an issue of law that can be decided on a motion to dismiss.**

“Patent eligibility under 35 U.S.C. § 101 is an issue of law.” *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015). Thus it can be decided by a motion to dismiss the complaint. *See, e.g., Ultramercial*, 772 F.3d at 712–13 (affirming grant of a Rule 12(b)(6) motion based on Section 101). If the scope of a challenged claim is clear, it does not need to be formally construed, even if it has means-plus-function limitations. *See id.* (affirming dismissal of complaint without “formally constru[ing] the claims”); *Landmark Tech., LLC v. Assurant, Inc.*, 2015 WL 4388311, at \*3 (E.D. Tex. July 14, 2015) (holding that “the mere presence of means plus function terms does not require a deferred ruling on validity under § 101”). Here, under any foreseeable claim constructions, the ’292 and ’139 Patents are patent ineligible and should be dismissed from the amended complaint.

**V. The ’292 Patent is patent ineligible.**

The ’292 Patent is patent ineligible because it is directed to nothing more than an abstract idea for collecting and analyzing data. Specifically, it merely recites calculating a mobile handset’s position by relying on both GPS-based and cellular-based estimates of position using generic computer-based hardware and generic GPS and cellular technology. The first three limitations of claim 1 recite three generic GPS-based functions: (1) receiving GPS-oriented signals in a “GPS receiver means”; (2) calculating position from these signals in a “GPS position calculation means”; and (3) calculating “positioning reliability based on the GPS-based position result” in a “GPS reliability calculation means.” The next three limitations recite identical functions for cellular-based signals. The final “combining means” limitation combines the GPS-based and cellular-based position estimates using the reliability of each of these estimates. The claim also specifies that the GPS and cellular signals are received simultaneously.

All of these limitations can be implemented in generic hardware, and none requires inventive functionality. The only insight the patent alleges is that the position estimate can be improved by combining GPS- and cellular-position estimates “depending on” their respective reliabilities. *Id.*, 2:13–18. But the only disclosed structure for the “combining means” limitation relies upon simple weighted-averaging of the estimates, which can be implemented in a generic computer, or accomplished by hand. It too fails to make the claims concrete.

**A. *Alice* Step 1: The ’292 Patent is directed to the abstract idea of combining two data sources based on their reliability.**

The claims of the ’292 Patent are directed to the abstract idea of combining two data sources based on their reliability. This is merely an example of collecting and analyzing data in a particular technological environment. The Federal Circuit has repeatedly held such patents to be directed to abstract ideas.

In *Elec. Power*, the focus of the patent was “on collecting information, analyzing it, and displaying certain results of the collection and analysis.” 830 F.3d at 1353. The representative method claim that was found to be ineligible required “detecting events on an interconnected electric power grid in real time.” The steps included “receiving” data from various sources, “detecting and analyzing” that data, “accumulating and updating the measurements” from the data, and “deriving a composite indicator of reliability” for the data. *Id.* at 1351–52. The Federal Circuit held that this was just “a process of gathering and analyzing information of a specified content, then displaying the results.” *Id.* at 1354. As with the claim-at-issue in *Elec. Power*, claim 1 of the ’292 Patent also requires receiving data from two sources—GPS-based and cellular-based estimates of position—and the reliability associated with each of these estimates. Then, as was the case in *Elec. Power*, claim 1 of the ’292 Patent analyzes the received data to derive a composite indicator of reliability, i.e., it combines the GPS-based and cellular-based data to derive a composite set of position coordinates. Like the claim-at-issue in *Elec. Power*, claim 1 uses “[non-]inventive

technology”—generic GPS and cellular functionality—“for performing th[e]se functions.” *Id.* Both are abstract ideas. *Id.*

The Federal Circuit also recently affirmed a motion to dismiss a complaint where the asserted claims were directed to the abstract idea of “analyzing records of human activity to detect suspicious behavior.” *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1091–92 (Fed. Cir. 2016). The method claim in *FairWarning* required generating a rule for monitoring data, applying the rule to the data if an event occurs, and, if the event occurs, storing a record of it in memory and providing notification of the event. *Id.* The Federal Circuit held that this idea is just a particular application of “collecting and analyzing information,” which belongs to the patent ineligible category of abstract ideas. *Id.* at \*3. The core of the ’292 Patent mirrors the abstract idea deemed ineligible in *FairWarning*. Claim 1 of the ’292 Patent also collects data from GPS and cellular signals and processes the data according to well-known rules (e.g., using weighted averaging to aggregate multiple sources of data) to calculate a new position estimate according to the reliability of the GPS and cellular signals.

The ’292 Patent is also similar to the one invalidated in *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 612 (Fed. Cir. 2016). The patent-at-issue in *TLI* claimed a “method for recording and administering digital images.” The method consisted of “recording images,” “storing the images” “in a digital form,” “transmitting data,” “receiving the data,” “extracting classification information,” and “storing the digital images” in a server. *Id.* at 610. The Federal Circuit held that this method was directed to the abstract idea of “classifying an image and storing the image based on its classification.” *Id.* at 611. Like the patent in *TLI*, the ’292 Patent uses “conventional or generic technology” (GPS and cellular functionality) in a “well-known environment” (a wireless device). *Id.* at 612. The ’292 Patent does not claim to have solved “any problem presented by combining” GPS and cellular data. *See id.* It simply claims combining the two data sources using simple arithmetic,

which is not “an inventive solution to” combining them. *See id.*; *see also Digitech*, 758 F.3d at 1351 (invalidating a claim to a “method of generating a device profile” with the limitations of “generating first data...,” “generating second data...,” and “combining said first and second data...” because, like the ’292 Patent, it was just a “process that employs mathematical algorithms to manipulate existing information to generate additional information.”).

The ’292 Patent is also similar to one that this Court held to be patent ineligible at the pleading stage in *Rothschild*, 2016 WL 3584195, *report and recommendation adopted*, 2016 WL 2847975. The patent in that case claimed a method (and system) “for entering location information into a positional information device.” The method consisted of “receiving ... a request from a first position information device” (i.e., a GPS device) for an address stored in a “second positional information device,” “determining ... a second identifier for identifying” the second positional device, “retrieving ... the request[,]” and “transmitting” the address retrieved from the second positional device to the first positional device. *Id.* at \*1–2. The Court held that this was just “a well-understood, fundamental concept of retrieving and sending data along with the requirement that it be performed b[y] two [GPS] ‘positional information devices.’” *Id.* at \*5. Similar to the patent in *Rothschild*, the ’292 Patent also concerns an abstract idea that combines the outputs of two generic positional information devices—GPS and cellular “position calculation means”—along with the outputs of two related generic devices—GPS and cellular “reliability calculation means”—to calculate numbers (i.e., position coordinates). *See id.*; *see also Callwave Commc’ns, LLC v. AT&T Mobility*, 2016 WL 4941990, at \*4 (D. Del. Sept. 15, 2016) (“Requesting and receiving location information is an abstract idea.”); *Kinglite Holdings Inc. v. Micro-Star Int’l Co. Ltd.*, 2016 WL 4205356, at \*4 (C.D. Cal. May 26, 2016) (holding that performing tasks “nearly simultaneously” represents the “abstract concept of multitasking”). Like the patent in *Rothschild*, the ’292 Patent is also directed to an ineligible abstract idea.

The '292 Patent is also like a patent application that the Patent Office's Patent Trial and Appeal Board ("PTAB") recently held to be patent ineligible. *See Ex Parte J. Nathaniel Sloan et al.*, Appeal No. 2014-009817, 2016 WL 7635014, at \*4 (Dec. 20, 2016). Relying on Federal Circuit guidance, the PTAB found that the application's claims were "directed to collecting information and analyzing that information by mathematical algorithms, which is clearly within the realm of abstract ideas." *Id.* (citing *Elec. Power*, 830 F.3d at 1356). The PTAB rejected the claims under Section 101 because they "effectively appl[ied] a weighted average when combining collected data" using "generic computer components performing conventional functions," which it held is an abstract idea and not inventive. *Id.* The '292 Patent is nearly identical. It discloses using a weighted-average equation to combine generic sources of wireless data (GPS-based and cellular-based data) collected from generic components of wireless communication devices (i.e., GPS and cellular reliability and receiver means).

The combining of the GPS- and cellular-based position data in the '292 Patent—the core of the alleged invention—does not make the claims concrete. As shown in Figure 3, the combining step could be performed with any general-purpose processor, in the human mind, or with a pen and paper—all the hallmarks of an abstract idea. *See Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (invalidating a patent for using a general-purpose computer to convert from one number base to another on the grounds that it was just a mental process); *Parker*, 437 U.S. at 586 (invalidating a patent for computing an alarm limit because the process could "be made by pencil and paper calculations"); *see also TDE Petroleum Data Sols., Inc. v. AKM Enter., Inc.*, 2015 WL 5311059, at \*5 (S.D. Tex. Sept. 11, 2015) (analyzing the "core" steps of the claimed method in defining the abstract idea), *aff'd*, 657 Fed. Appx. 991 (Fed. Cir. 2016).

The '292 Patent is different than the patents that have recently survived *Alice*-step-1 scrutiny at the Federal Circuit. For example, the claims of the '292 Patent are not "directed to a specific

improvement to the way computers operate,” such as “the self-referential table” claimed in *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016). In contrast, the ’292 Patent employs generic components to achieve routine conventional activity. The GPS-related and cellular-related means receive GPS and cellular signals and generate position estimates, a conventional activity for such devices. Both calculate reliability of the position estimates. A generic computer can combine the position estimates using the weighted-average formula. Nor is the ’292 Patent similar to the “specific asserted improvement in computer animation” claimed in *McR0, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016). Unlike the patent in *McR0*, the ’292 Patent does not “use[] a combined order of specific rules that renders information into a specific format.” *Id.* at 1315. The ’292 patent concedes that the order of operations is not limiting. *See* ’292 Patent, 3:18–23. Unlike in *McR0*, the data that is combined in the ’292 patent—the GPS- and cellular-position data—are in the same format: pairs of position coordinates (i.e., numbers). Instead of specific improvements to wireless technology, the ’292 Patent claims an abstract idea for storing and receiving generic wireless data, “and using mathematics or a computer to organize that data and generate additional information”—combined position data. *See TDE*, 2015 WL 5311059, at \*3–5 (finding a method for automated well selection was abstract where the method required “storing” oil-well information, “receiving mechanical and hydraulic data,” and “determining that at least some of the data is valid by comparing ... the data to at least one limit”), *aff’d*, 657 Fed. Appx. 991.

**B. *Alice* Step 2: The ’292 Patent adds nothing inventive to the abstract idea.**

Individually and as an ordered combination, the limitations of the ’292 Patent do not add an inventive concept to the abstract idea of combining data from two different sources based on the reliability associated with each source. “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Alice*, 134 S. Ct. at 2358 (citation omitted). Reciting “a generic computer cannot

transform a patent-ineligible abstract idea into a patent-eligible invention.” *Id.*; *Elec. Power*, 830 F.3d at 1355 (“[I]nvocations of computers and networks that are not even arguably inventive are insufficient ....”) (quotation marks and citation omitted). But generic computer-based technology is all the ’292 Patent claims. There are no “additional features” in this patent beyond “well-understood, routine, conventional activities previously known to the industry.” *Alice*, 134 S. Ct. at 2357–59. It simply limits the abstract idea to “a particular technological environment,” which is not inventive. *Elec. Power*, 830 F.3d at 1354.

**GPS-related & cellular-related limitations:** The ’292 Patent concedes in the background section that calculating a handset’s position based on GPS or cellular signals was known in the prior art. *Id.*, 1:14-29. It also notes that it was known that this data could be unreliable. *Id.*, 1:30–57. In particular, it states that in an indoor environment, the GPS signals may be weak or that some GPS satellites may be unavailable. *Id.* Similarly, it states that in rural or mountainous regions, the number of base stations that transmit cellular signals with useable signal quality may be low. *Id.* The GPS- and cellular-reliability calculation means rely on these well-known limits of GPS and cellular data and uses generic techniques to estimate the reliability of the position estimates. *Id.*, 3:33:59 and 4:4:42. In short, the ’292 Patent inventors did not invent nor improve the technology in the claimed GPS- or cellular-receiver means, GPS- or cellular-position calculation means, or GPS- or cellular-reliability calculation means. *See* Young Decl., Ex. A at 3–6. As far as the patent is concerned, they are essentially off-the-shelf black boxes and are depicted as black-boxes in the patent. *See, e.g.*, ’292 Patent, 3:33–34 (identifying a “GPS receiver **200**” and “position calculation unit for GPS **201**” with high-level functional descriptions), 4:10–15 (same for the “cellular receiver **300**” and “position calculation unit for cellular **301**”).

This Court has held that “[a] GPS device is a well-known generic computer element insufficient to make otherwise patent-ineligible subject matter patentable.” *Rothschild*, 2016 WL

3584195, at \*7. The same is true of generic cellular functionality. *See Affinity Labs*, 838 F.3d at 1262 (holding that the “use of generic features of cellular telephones ... as well as routine functions, such as transmitting and receiving signals, to implement the underlying idea” is not inventive).

Here, the '292 Patent claims generic GPS and cellular means. It “does not direct the[se] positional information device[s] to perform anything more than generic computer tasks,” *Rothschild*, 2016 WL 3584195, at \*7. Rather, it simply claims “receiving,” “generating,” and “calculating” GPS- and cellular-based signals. These are not inventive limitations. They “do nothing more than spell out what it means to ‘apply’ conventional activit[ies] on ... GPS” and cellular devices. *Id.*; *see also Content Extraction*, 776 F.3d at 1349 (“collecting data,” recognizing certain data,” and “storing that recognized data” were “well-understood” and “routine” uses of a computer). Therefore, the GPS and cellular means of claim 1 fail to provide the inventive contribution required under Section 101.

**Combining means limitation:** The “combining means” is also not inventive. The only disclosed technique is a generic weighted-average equation. *See* '292 Patent, 4:49-64 & Figure 3; *see also Univ. Computing Co. v. Mgmt. Sci. Am., Inc.*, 810 F.2d 1395, 1399 n.6 (5th Cir. 1987) (“A mean (or weighted average) is one method of obtaining an ‘average’ value.”); *Hall v. City of Chicago*, 52 Fed. Appx. 259, 261 (7th Cir. 2002) (referring to “a standard weighted-average formula”). The '292 Patent uses this basic mathematical formula to combine two data sources—GPS-based and cellular-based position—to derive what is essentially a “composite indicator of reliability,” i.e., a combined GPS/cellular position. This is not inventive. *See Elec. Power*, 830 F.3d at 1352 (holding that “deriving a composite indicator of reliability ... derived from a combination of one or more real time measurements or computations of measurements from the data streams” is not inventive); *Parker*, 437 U.S. at 595 (“If a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.”).

The '292 Patent does not disclose an improvement to the structure disclosed for the



combining means: it can be implemented in any general purpose computer (or with pen and paper). Thus it is “not really limited at all.” *TDE*, 2015 WL 5311059, at \*6 (holding that means-plus-function claims that can be “implemented on a general purpose processor or with programmed hardware such as application-specific circuits” are not inventive) *aff’d*, 657 Fed. Appx. 991; *see also Landmark Tech.*, 2015 WL 4388311, at \*8 (holding that a computer “‘programmed to’ do something ... is a ‘well-understood, routine, conventional activity previously known to the industry’”) (quoting *OIP Tech.*, 788 F.3d at 1363). Therefore, the combining means fails to impart an inventive concept sufficient to transform claim 1 into patent eligible subject matter.

**“Simultaneous” requirement:** The “simultaneous” requirement simply requires that the handset be adapted to receive GPS and cellular signals simultaneously. It too adds nothing inventive because “[a]n abstract idea does not become inventive due to its timing in a greater process.” *SkillSurvey, Inc. v. Checkster LLC*, 178 F. Supp. 3d 247, 261 (E.D. Pa. 2016) (rejecting plaintiff’s argument “that the novelty of the combination of steps and the timing of those steps renders the abstract patentable”). It is just “multitasking,” which computers (and people) do all the time. *Kinglite*, 2016 WL 4205356, at \*6 (holding that “similarly timing the sequence and operation of tasks in the BIOS” was not “particularly inventive”; it was just “multitasking”).

**The ordered combination of limitations:** The ordered combination of limitations in claim 1 is equally non-inventive. In fact, the ’292 Patent concedes that “[t]he order of the GPS/cellular steps is not limiting.” ’292 Patent, 3:22–23. The Federal Circuit has held that merely disclosing “a processing system” is not inventive because it does not “improve the functioning of the computer itself.” *Intellectual Ventures*, 838 F.3d at 1313, 1315 (quoting *Alice*, 134 S. Ct. at 2359). The hardware claimed by the ’292 Patent is similarly generic and offers no improvements to the functioning of existing GPS, cellular, or combining means. Instead, the claims only ask for their “well-known, routine, and conventional functions” (i.e., “receiving,” “generating,” and “calculating”).

This is nothing like the claims the Federal Circuit has been found to be inventive post-*Alice*. For example, in *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, the Federal Circuit held that the patent-at-issue was inventive because “the ordered combination of limitations carve[d] out a specific location for the filtering system (a remote ISP server) and require the filtering system to give users the ability to customize filtering for their individual network accounts.” *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1352 (Fed. Cir. 2016). Here, the ’292 Patent concedes that the ordered combination of limitations is not limiting. *See* ’292 Patent, 3:22–23.

In another case, the Federal Circuit held that the patent-at-issue was inventive because it claimed an “unconventional technological solution” to a technical problem. *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300 (Fed. Cir. 2016). Here, the limitations recite “a set of generic computer components” performing generic computer functionality. *See Bascom*, 827 F.3d at 1350. The ’292 Patent claims a conventional solution (combining multiple data sources while taking their reliability into account) to a conventional problem (how to aggregate or analyze data from multiple sources where each source of data may have different reliability).

**Claim 2:** Claim 2 falls for the same reasons as claim 1. It claims a method that is nearly identical to the steps of claim 1. The only difference is that the GPS- and cellular-position data must be calculated simultaneously. This is not inventive for the same reason that the simultaneous limitation of claim 1 is not inventive: the order of these well-known calculations is not inventive. *See, e.g., SkillSurvey*, 178 F. Supp. 3d at 261; *Kinglite*, 2016 WL 4205356, at \*6. Indeed, the patent admits that the order is “not limiting.” ’292 Patent, 3:22–23.

Accordingly, the ’292 Patent is patent ineligible.

## **VI. The ’139 Patent is patent ineligible.**

The ’139 Patent is also patent ineligible because it too just claims an abstract idea involving the collection and analysis of data, using generic computer hardware and functionality. The ’139

Patent is directed to measuring and calculating a metric associated with a group, selecting a group based on that metric, and then identifying a particular object within the specified group. Claim 1, which is a representative claim, implements this abstract idea in the context of base stations for wireless communication. Specifically, claim 1 requires a three-step method: (1) measuring the quality of communications (i.e., index of communication quality) between a terminal and each base station, where the base stations have been classified into a plurality of groups; (2) calculating a group score (i.e., characterization quantities) for each group based on the collected metrics; and (3) specifying one of the groups based on the group score (i.e., characterizing quantities) and then selecting a base stations from the specified group.

There is nothing inventive about this method for collecting and analyzing data. The steps can even be performed by hand. Even if they require electronic hardware, the claimed functions—calculating, specifying, and selecting—are basic and routine operations for a wireless device. The inventors of the patent did not invent or improve the technology behind these abstract operations.

Claim 1 represents the abstract idea present in every claim in the '139 Patent. It is analyzed first in sections VI.A and B below. The remaining claims, which are directed to the same abstract idea and add nothing inventive, are addressed in section VI.C.

**A. *Alice* Step 1: The '139 Patent is directed to the abstract idea of collecting and calculating metrics associated with a group and then selecting a particular object within a specified group.**

Claim 1 is representative. It is directed to the abstract idea of collecting and calculating metrics associated with a group and then selecting a particular object within a specified group. Specifically, it claims an abstract method for selecting a base station from a group of base stations. The method starts with base stations that have been organized into groups. In limitation [1], metrics of communication quality (i.e., an index of communication quality) between a terminal and each base station are collected. In limitation [2], group scores (i.e., characterizing quantities of

communication quality) are calculated based on the collected data. Finally, in limitation [3], a group is specified “based on” the group scores, and a base station within that group is selected.

The method of claim 1 mirrors the abstract ideas for collecting and organizing data that the Federal Circuit has repeatedly held to be patent ineligible. The patent-at-issue in *Elec. Power*, for example, was held to be patent ineligible because it added no inventive concepts to the abstract idea of “collecting information, analyzing it, and displaying certain results of the collection and analysis.” 830 F.3d at 1353. The representative claim in *Elec. Power* claimed a method for “detecting events on an interconnected electric power grid in real time” and included the steps of “receiving” data from various sources, “detecting and analyzing” that data, and “accumulating and updating the measurements” from the data in order to “deriving a composite indicator of reliability.” *Id.* at 1351–52. Likewise, the patent-at-issue in *TLI* was found ineligible because it was directed to the abstract idea of “classifying an image and storing the image based on its classification” and the method claim contained steps—such as “storing” images, “transmitting data,” “receiving the data,” and “extracting” data—that added nothing inventive. 823 F.3d at 610–12.

Like the patents-at-issue in *Elec. Power* and *TLI*, the ’139 Patent is also about collecting and analyzing data, albeit for wireless communications. In limitation [1] of claim 1, metrics of communication quality between terminals and base stations are measured (e.g., received power, bit rates, and SNR), where the base stations have been classified in groups (without a particular rule for organizing the base stations into groups); in limitation [2], the collected metrics are analyzed to calculate a group score (i.e., index of communication quality) for each group; finally, in limitation [3], the group scores are used to specify a group, and then a base station within that group is selected. As was the case with the method claims in *Elec. Power* and *TLI*, there is nothing concrete about the method claimed in the ’139 Patent. It claims collecting basic metrics of wireless communication, analyzing them at a group level, and then making straight-forward decisions (i.e., selections) based

on this analysis. *See also FairWarning IP*, 839 F. 3d at 1091–93 (holding that claims directed to the abstract idea of “analyzing records of human activity to detect suspicious behavior” was an abstract example of “collecting and analyzing information”).

The ’139 Patent is also similar to the patent in *Versata*, where the Federal Circuit held that “[u]sing organizational and product group hierarchies to determine a price is an abstract idea.” *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1333–34 (Fed. Cir. 2015). In that case, the claim that was found to be ineligible performed basic data manipulation, such as arranging a hierarchy of product groups and then storing, retrieving, and sorting pricing information for the groups. *Id.* at 1312. That claim is similar to the claims of the ’139 Patent. Claim 1 of the ’139 Patent arranges base stations into groups and organizes generic wireless communication quality data in order to sort base stations groups by their group scores. Thus, like the example of collecting and organizing data in *Versata*, claim 1 of the ’139 Patent is directed to a patent ineligible abstract idea.

The heart of the method of claim 1—the organizing, calculating, tabulating, and selecting—is so abstract that it can be done entirely with pen and paper. Limitation [1] mentions that the base stations have been classified into pre-determined groups of base stations. Those groups can be written by hand in a table similar to the one shown in Figure 3(A). In fact, the patent states that the “table 301 must be entered into the terminal in advance before selecting a base station according to the method of the present invention.” ’139 Patent, 4:37–39. Measurements are taken of metrics that quantify the communication quality between terminals and base stations. The results can be manually recorded in a table similar to the one shown in Figure 3A. As required by limitation [2], a person can then calculate a “group score” by simple addition (Figure 3B) or averaging (Figure 3C) of the communication-quality metrics. Finally, limitation [3] requires specifying a group based on the group score, which can be done by manually scanning the column containing Group Score in the table shown in Figure 3A. Once a group has been specified, the same table in Figure 3A also

identifies all the bases stations in the group, one of which can be manually selected.

The fact that these steps can be accomplished by hand further underscores that the claimed method is just an abstract idea. Despite the veneer of wireless technology, the claim does not really “call for any form of computer implementation of the claimed method[]”; instead, as shown, it could be performed by hand, the tell-tale sign of an abstract idea. *See Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1147 (Fed. Cir. 2016) (holding that claims to a “method for converting a hardware independent user description of a logic circuit” were abstract because they could be “performed in the human mind”); *SkillSurvey*, 178 F. Supp. 3d at 259 (“[A]veraging ... a collection of numerically scored answers and comparing them to other average scores constitutes basic math that any elementary school educated human or generically programmed computer can accomplish.”).

Accordingly, claim 1 of the ’139 Patent is directed to an abstract idea—collecting and calculating metrics associated with a group and then selecting a particular object within a specified group. As shown below, because it lacks an inventive concept, claim 1 is patent ineligible.

**B. *Alice* Step 2: The ’139 Patent adds nothing inventive to its abstract idea.**

Individually and as ordered combinations, the limitations of claim 1 add no inventive concept to this abstract idea. Claim 1 recites generic functions—“obtaining,” “calculating,” and “specifying” data—which can be performed by generic computers using generic wireless hardware. Implementing each of the steps that claim 1 requires—obtaining an index of communication quality, calculating characterizing quantities for each group, specifying a group of base stations, and selecting a base station within that group—do not require any improvements to pre-existing technology. The recited physical components, such as base stations, merely provide the generic environment in which to carry out this abstract idea of collecting and analyzing data. Reciting base stations that are put to their generic use does not add an inventive concept that transforms an abstract idea for collecting and analyzing data into patent-eligible subject matter. The “focus” of

claim 1 of the '139 Patent “is not on ... an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools.” *Elec. Power*, 830 F.3d at 1354. In short, the '139 Patent uses, at best, generic functionalities of wireless communication to implement the claimed method. It adds no “tangible technological advance beyond a mere abstract idea implemented using various existing technological tools.” *See Callwave*, 2016 WL 4941990, at \*5 (invalidating claims “directed to ... relaying location information via an intermediary”).

The '139 Patent discloses an algorithm that could be implemented in software, but it does not add any inventive concept to claim 1, leaving it patent ineligible. In *Accenture Glob. Servs.*, the Federal Circuit held that even if a patent’s specification has “very detailed software implementation guidelines,” its claims are not patent eligible if they “only contain[] generalized software components arranged to implement an abstract concept on a computer.” *Accenture Glob. Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (holding that “the complexity of the implementing software or the level of detail in the specification does not transform a claim reciting only an abstract concept into a patent-eligible system or method”). The '139 Patent does not even provide “detailed software implementation guidelines” and it concedes that the “wireless communication function and the base station selection algorithm are implemented” by executing the software stored in RAM with a CPU (i.e., with a generic computer). *See* '139 Patent, 6:1–3. Thus the '139 Patent claims an abstract idea that can be implemented in off-the-shelf components. This is not inventive.

“The Federal Circuit has recently clarified that ... functional, result-oriented claims are a hallmark of claims commonly found invalid under § 101.” *Callwave*, 2016 WL 4941990, at \*5 (citing *Elec. Power*, 830 F.3d at 1356; *TLI*, 823 F.3d at 615). The same result should apply here. Claim 1 of the '139 Patent contains only functional and result-oriented limitations—obtaining signals, calculating quantities, specifying a base station group, and selecting a base station—that are “generic features” and “routine functionalities” of wireless terminals. *Affinity Labs*, 838 F.3d at 1262. It is,

therefore, not inventive. *Id.*; see also *Uniloc USA, Inc. v. E-MDS, Inc.*, 2015 WL 10791906, at \*4-5 (E.D. Tex. Aug. 19, 2015) (holding that a “purely functional limitation” with no “limiting language that could result in a specific programming, a special-purpose computer, or any other application” that could result in “non-conventional element” was not inventive).

The claims of the '139 Patent are distinguishable from those that have recently survived step 1 of the *Alice* analysis. The claims of '139 Patent are not “directed to a specific improvement to the way computers operate. *Cf. Enfish*, 822 F.3d at 1336. There is also no “specific asserted improvement in” the technology used to select a base station. *Cf. McRO*, 837 at 1314. Nor does claim 1 recite an “unconventional technological solution” to any problem. *Cf. Amdocs*, 841 F.3d at 1300. In other words, claim 1 does not “amount[] to significantly more than a patent upon” the abstract idea of collecting and analyzing metrics associated with the communication quality of groups of base stations and then selecting a particular base station within a specified group of base stations. See *Alice*, 134 S. Ct. at 2355, 2358 (internal quotation marks omitted).

The '139 Patent uses conventional techniques to solve a conventional problem: selecting one item from groups of items. As discussed, claim 1 is “so result-focused, so functional, as to effectively cover any solution to [the] identified problem” of selecting a base station from groups of base stations. See *Elec. Power*, 830 F.3d at 1356. That is, it adds nothing inventive to the claimed abstract idea. Claim 1 is, therefore, patent ineligible.

**C. The remaining claims of the '139 Patent are directed to the same abstract idea as claim 1 and add nothing inventive to that idea.**

The other claims of the '139 Patent are no more concrete than claim 1 and are equally non-inventive. They simply limit the idea to a particular technological environment or add well-known, generic metrics of wireless communication. Immediately below are descriptions of these claims in the order that they appear in the patent. After that, claims that concern the same functionality are analyzed together. Because all of these claims concern the same abstract idea as claim 1, and none



of them contribute any inventive concepts, they are all patent ineligible.

**Claim 2 through 10:** These claims depend upon claim 1 and are also abstract and non-inventive. Each simply embellishes the abstract idea of claim 1 with generic and conventional content. Claims 2 through 5 merely specify particular ways to calculate the claimed characterizing quantities of the communication quality. Claim 2 requires adding up the received power for the base station in each group to create a characterizing quantity for that group. The total power for each group is then used to specify the group with the maximum or at least greater than a threshold, and a base station is then selected from that group. Instead of using total received power, claim 3 uses the average received power for each base station in a group, it then requires selecting the group with the maximum average received power or larger than a threshold. Claim 4 uses bit rates instead of received powers and requires selecting the group with the maximum aggregate bit rates or larger than a threshold. Claim 5 uses SNR (signal-to-noise ratios) instead of bit rates and requires selecting the group with the maximum aggregate SNR or larger than a threshold. Claims 6 through 9 specify different ways in which a base station from a specified group is selected as the “connection destination base station.” Claim 6 requires that a base station from each group be determined “in advance.” 139 Patent, 10:44–48. Claim 7 requires selecting the base station with the highest received power. Claim 8 and claim 9 require selecting the base station with the highest bit-rate and highest SNR, respectively, as the connection destination. Finally, claim 10 requires locating the terminal by analyzing the time taken by a signal to travel from a terminal to the base stations.

**Claims 11 through 14:** Claim 11 essentially takes the abstract method of claim 1 and confines it to a wireless terminal. Claim 11 requires a wireless terminal with a storage unit to store the information about the base station groups and a control unit that obtains data from all the base stations to (1) calculate a group score, (2) specify a group, and then (3) select a base station within that group. Claims 12 and 13 depend upon claim 11 and specify what metrics should be used to

calculate the characterizing quantities for each group of base stations. Claims 12 specifies that either received power or SNR be employed as the characterizing quantities. Claim 14 depends upon claim 11. Mirroring claim 10, claim 14 requires that a terminal employ propagation time of a signal from a terminal to a base station to calculate its position.

**Claim 15 and 16:** Independent claim 15 essentially takes the abstract method of claim 1 and confines it to a wireless system. Claim 15 specifies a system with a plurality of base stations and wireless terminals. The terminal performs the steps that mirror claim 1. Like claim 10 and claim 14, claim 16 specifies that a terminal employ propagation times to calculate its position.

All of these claims are directed to the same abstract idea as claim 1. None of them adds an inventive concept. Thus, like claim 1, they are patent ineligible.

The limitations added by claims that depend upon either claim 1 or claim 14—specifically, **claims 2 through 9 and 12 through 13**—do not render these claims concrete because they only add “well-understood, routine, conventional” quantities “previously known to the industry.” *Alice*, 134 S. Ct. at 2359. An abstract method for selecting a base station using one of the claimed generic metrics of wireless communication—received power, bit rates, and SNRs—is still an abstract idea. Adding any of this “particular content” is not inventive. *See Elec. Power*, 830 F.3d at 1353 (explaining that the “realm of abstract ideas” includes “collecting information, including when limited to particular content”). The ’139 Patent inventors did not invent these quantities or improve the technology used to send, receive, or process them. These limitations “represent merely generic data collection steps.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1349 (Fed. Cir. 2015); *see also Ultramercial*, 772 F.3d at 715 (invalidating a claim “[a]lthough certain additional limitations ... add[ed] a degree of particularity” because “the concept embodied by the majority of the limitations describe[d] only the abstract idea”).

Independent **claims 11 and 15** are directed to the same abstract idea as claim 1 and are also

not inventive. They “merely graft generic computer components onto otherwise-ineligible method claims.” *FairWarning*, 839 F.3d at 1096. They recite generic computer hardware—a “storage unit,” “control unit,” and “wireless communication module”—“to perform generic computer functions.” *Intellectual Ventures*, 838 F.3d at 1315 (quotation marks and citation omitted). They “are not directed to a specific improvement in the way computers operate.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1241 (Fed. Cir. 2016). Under both *Alice* step 1 and 2, these claims are abstract and non-inventive because they simply apply the abstract idea of claim “to a particular technological environment”—a wireless terminal (claim 11) or wireless communication system (claim 15)—which “is not enough for patent edibility.” *See Alice*, 134 S.Ct. at 2350 (quotation marks and citations omitted).

**Claims 10, 14, & 16**—the location-determination claims—are as abstract as claim 1 because “they are directed to the use of conventional ... technolog[ies]”—the technologies that calculate a wireless terminal’s position using GPS and cellular signals—applied to a “well-known environment without any claim that the invention reflects an inventive solution to any problem” in the field of positioning techniques. *See TLI*, 823 F.3d at 612. Claims 10, 14, and 16 also do not add anything inventive. They recite “using times at which signals ... are received” to calculate a wireless terminal’s position. ’139 Patent, 10:65–11:2, 12:22–25. But simply “using [such] times” is not an inventive way to calculate position. It simply adds another abstract idea on top of the abstract idea discussed above, and is “essentially [a] result-focused, functional character of claim language [that] has been a frequent feature of claims held ineligible.” *See TLI*, 823 F.3d at 615.

## **VII. Conclusion**

The claims of the ’292 and ’139 Patents are ineligible under Section 101 because they are each directed to similar abstract ideas for collecting and processing data. Neither adds an inventive concept. It would waste the Court’s and the parties’ resources to litigate these patents further. Thus, the Court should dismiss Counts 2 and 4 from the amended complaint, with prejudice.

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**CERTIFICATE OF SERVICE**

I certify that, on March 6, 2017, I filed a true and correct copy of the foregoing document using the Court's CM/ECF system, which will serve the same upon all counsel of record who have consented to electronic service.

/s/ Stanley Young\_\_\_\_\_